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PROPOSAL

TO

THE PROVINCE OF ALBERTA

TO

PROVIDE SERVICES WITH RESPECT TO THE CONTROL OF STRIP AND OPEN-PIT MINING OPERATIONS AND THE DISPOSAL OF WASTES RESULTING FROM THESE OPERATIONS

Submitted by: A. E. MOSS, Ph.D.

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FILE NO.

PROPOSAL TO THE PROVINCE OF ALBERTA TO PROVIDE SERVICES WITH RESPECT TO THE CONTROL OF STRIP AND OPEN-PIT MINING OPERATIONS AND THE DISPOSAL OF WASTES RESULTING FROM THESE OPERATIONS

Private organizations and a significant portion of the citizens of the Province of Alberta are becoming increasingly concerned regarding the possible degeneration of areas adjacent to future mining sites and of certain environmental problems that have been the result of past and present mining operations. This statement is particularly true of strip mining operations.

Admittedly, a remarkably high percentage of the spokesmen who have criticized the mining industry and the government in the daily press and other publications may be classified in one or more of the following categories:

1. They have little, if any, understanding of mining operations.

2. They apparently have no appreciation of the vast amounts of new wealth that mining generates for the government and the people of Alberta.

3. They are guilty of greatly exaggerating the extent of possible damage to the countryside as the result of mining operations.

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(4) They disregard the fact that large milepost of trails, highways and rail beds are constructed into hitherto inaccessible portions of the province to serve mining operations. [illegible] forests [illegible] timber, hunters, [illegible] tourists and, in fact, all citizens to enjoy new areas which otherwise might remain beyond their reach. Much of the criticism against mining operations originate from among those same people.

(5) They are highly emotional, militant conservationists who believe that the Province should remain a wilderness and that industrial development should take place elsewhere.

Probably, the mining company s and possibly the Government have not done a satisfactory public relations job. The public s unaware of the tremendous contribution the mining industry has and will make towards strengthening the province's economy.

Regardless of the past, it is clear that henceforth mining operations will be much more carefully scrutinized than has been the case in the past and severe criticism will be immediate should mining and reclamation legislation be abused -- even to a minor degree. Mine operators must be responsible for conducting their mining operations as well as their reclamation operations strictly according to the spirit of the legislation now included in the various Government Acts. Mining companies must, of course, meet any of the additional costs involved which may be necessary to adhere to the Government Regulations. The same, great caution must be exercised so that potential mining

(4) They disregard the fact that large mileages of trails, highways and railroads are constructed into hitherto inaccessible portions of the Province to serve mining operations. These networks allow fishermen, hunters, naturalists, holidayers and, in fact, all citizens to enjoy new vistas which otherwise might remain beyond their reach. Much of the criticism against mining operations originate from among these same people.

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operations will not be discouraged by unreasonable Government demands.

The proposal of Underwood McLellan & Associates Limited involves the bringing together of an inter-disciplinary technical team capable of examining and evaluating all aspects of mining operations which may cause lasting or even permanent environmental problems. It is suggested that the availability of such a team might be invaluable to the Department of Mines and Minerals. Close liaison and co-operation with the mine operators and the various divisions of the Government would be essential in order that the proposal be successful.

With present technology and foreseeable changes in this technology, it is possible to provide on-site inspections at appropriate intervals, at a relatively small cost. In our opinion the public interest cannot be satisfied without assurance that legislation covering the matters in question is within the ability of the operators to comply with the legislation, and that in fact, adequate compliance checks are being made at appropriate intervals.

It is proposed that the following inter-disciplinary team be headed by Dr. A. E. Moss, Director of Mining Division, Underwood McLellan & Associates Limited. Dr. Moss has long

experience in mining operations, is knowledgeable of the attitudes of the operators and familiar with the need of Governmental control where necessary.

Dr. Moss would co-ordinate and evaluate all aspects of the problem. He would bring together specialists from the following other disciplines:--

1. Western Photogrammetry Ltd. - A subsidiary company of Underwood McLellan specializing in air photo interpretation, terrain analysis, topographic mapping, digital readout systems and computer applications to photogrammetry. We consider that much of the inspection work can be done using aerial methods, not only because of the opportunity provided by "before and after" photography, but also if the ability to assess and analyse is engineered into a given situation.

2. Geotechnical Division- P. B. Makowichuk, M.Sc., P. Eng. Mr. Makowichuk would be responsible for the Geotechnical aspects of the work and has a complement of personnel experienced in this field to assist him in this regard. Particular interest would be given to the stability and the likely settlement and consolidation conditions of the

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(3) Pollution Control - Dr. J. Norman, P. Eng.

It is proposed that Underwood McLellan & Associates Limited, and Prosearch Ltd., a subsidiary firm specializing in pollution research and analysis be responsible for identifying the necessity for the sampling and the testing of possible land, stream and air pollutants. Recommendations would be made as to sampling and testing techniques, which would provide the necessary checks at appropriate intervals, to determine if and when pollution becomes significant. Appropriate control measures would then be enforced.

(4) Planning and Recreation Aspects - S. J. Clarke, M.T.P.I.C.

Historically, small urban centres have developed immediately adjacent to strip-mining or other mining operations. Expansion of mining operations has been hampered as well as having hampered the wholesome growth of the adjacent community. Clearly a need for objective planning is evident. As existing and proposed operations develop, provisions to protect accommodation and recreation in these

areas, which are not subject to the downgrading and loss of property value which sometimes occur when operations of this nature engulf as urban area, must be pre-conceived.

Underwood McLellan & Associates are prepared to offer the services of its Planning Division, its Director, Mr. S. J. Clarke, M.T.P.I.C. and staff to assist in the formulation of the planning considerations required in conjunction with existing and proposed mining development regulations and legislation.

(5) Economics - In maintaining legislation with respect to disposal of overburden and other wastes and in order to avoid pollution and the depreciating effects of the operation on the surrounding lands, it is imperative to establish the operator's ability to economically comply with these regulations. We would offer the services of our Industrial Division, under the direction of Mr. R. H. Drysdale, P. Eng., to assess the relative economics of any proposed or expanding operation in regard to its capacity and ability to maintain the desirable development standards.

While we have not touched upon all aspects of this problem, we desire only at this time to indicate to you that there may be some value in retaining an independent authority.

If this should be your wish, we offer our services to you with the understanding that our firm is prepared to contribute meaningfully.

A.E. MOSS, P. Geol.
Director, Mining Division